

# Verdi G STM-Series

## High Performance 532 nm CW Laser

The Verdi G is a high performance CW laser providing up to 8 W at 532 nm, ideal for demanding applications ranging from semiconductor inspection to Ti:Sapphire laser pumping.

Based on the unique Coherent Optically Pumped Semiconductor Laser (OPSL) technology, the Verdi G produces a diffraction limited, power-invariant beam with extremely low noise and high stability.

High reliability and robustness is ensured by the use of Coherent's ultra-long life AAA™ pump diodes, patented PermAlign™ technology, and rigorous HALT/HASS protocols.



### FEATURES

- Up to 8 W at 532 nm
- Extremely low noise
- Superior mode quality
- Power-invariant beam properties
- PermAlign™ solder-bonded optics technology
- AAA™ ultra-long life pump diodes
- OEM and benchtop configuration options

### APPLICATIONS

- Ti:Sapphire pumping
- Semiconductor inspection
- DNA sequencing
- Particle monitoring

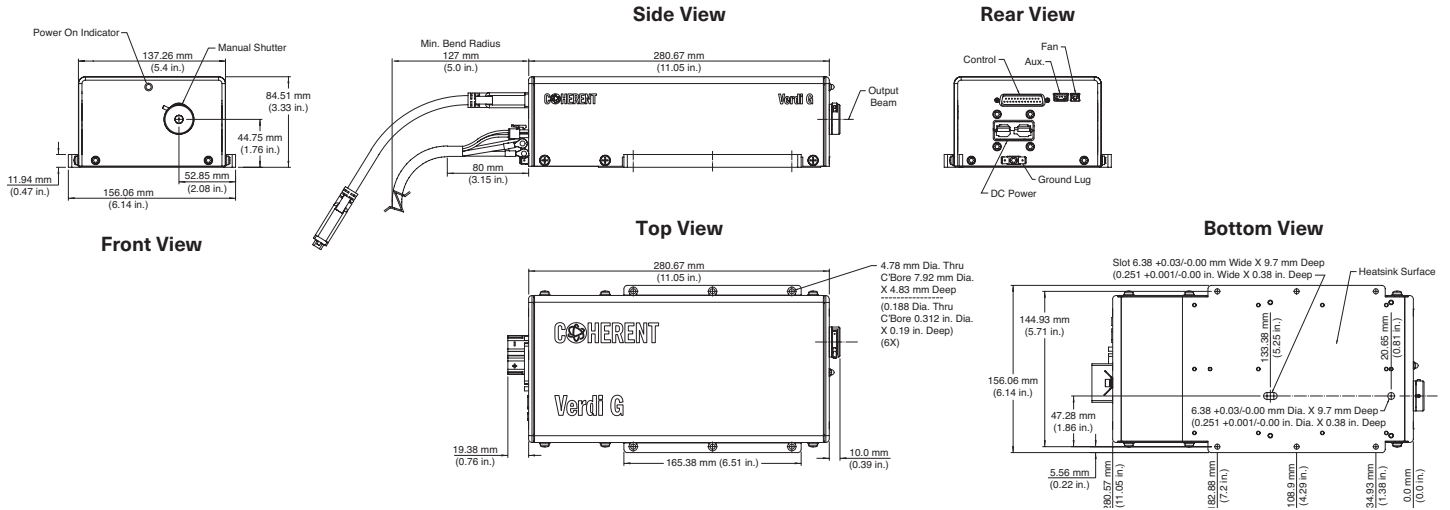
Specifications <sup>1</sup>	Verdi G2	Verdi G5/G7/G8
Wavelength (nm)	532 ±2	
Pulse Format	CW	
Linewidth (FWHM) (GHz)	<30	
Spectral Purity (%)	>99	
Output Power (W)	2	5, 7, 8
Power Tunability	10% to 100% full rated power	
Spatial Mode	TEM <sub>00</sub>	
Beam Quality	<1.1	
Beam Circularity <sup>2</sup>	1.0 ±0.1	
Beam Waist Diameter (mm) (FW, 1/e <sup>2</sup> )	2.3 ±0.3	
Beam Divergence (mrad) (FW, 1/e <sup>2</sup> )	<0.5	
Beam Waist Location <sup>3</sup> (m)	±0.5	
Beam Pointing Stability <sup>4</sup> (μrad/°C)	<5	
Horizontal Beam Position Tolerance <sup>5</sup> (mm)	±<1.0	
Vertical Beam Position Tolerance <sup>5</sup> (mm)	±<1.0	
Polarization Ratio	Linear, >100:1	
Polarization Direction	Vertical, ±5°	
Noise <sup>6</sup> (% rms) (10 Hz to 100 MHz)	<0.03	<0.02
Power Stability <sup>6</sup> (%) (pk-pk)	±<1	
Warm-up Time (minutes)	<10	
CDRH Compliant	Yes	
<b>Utility Requirements</b>		
Operating Voltage (VAC)	100 to 240	
Frequency (Hz)	50 to 60	
Power Consumption (W)	<600	
Cooling Requirements	Laser head must be mounted on a suitable heatsink, e.g., Genesis CX Water-Cooled or Air-Cooled Riser	
<b>Environmental Conditions</b>		
Ambient Temperature (°C)	10 to 40, non-condensing	
Operating	10 to 40, non-condensing	
Non-Operating	-10 to 60	
Relative Humidity <sup>7</sup> (%)	5 to 95	
<b>Mechanical Conditions</b>		
CE Marking	IEC 61010-1/EN 61010-1	
Dimensions (L x W x H)		
Laser Head <sup>8</sup>	281 x 156 x 85 mm (11.06 x 6.14 x 3.35 in.)	
Benchtop Power Supply	361 x 229 x 160 mm (14.22 x 9.01 x 6.29 in.)	
Cables (laser head to controller)	3 m (10 ft.)	
Weight		
Laser Head (including cables)	7.1 kg (15.6 lbs)	
Benchtop Power Supply	6.0 kg (13.2 lbs.)	

## Notes:

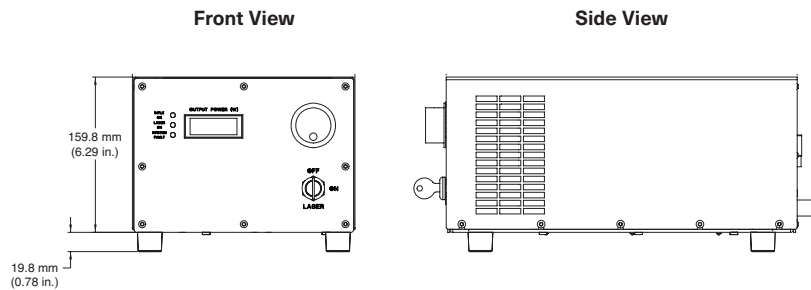
- Optical parameters measured at the output plane of the laser head, unless noted all parameters valid at the nominal output power and for the lifetime of the unit.
- Circularity defined as vertical diameter divided by horizontal diameter.
- Negative value corresponds to a location inside head.
- After 2-hour warm-up.
- Measured at the output window.
- Noise specification applies at full rated power. Noise varies roughly inversely proportionally to the output power.
- Measured over 8 hrs.
- Non-condensing.
- Back connector not included in laser head length dimension.

**Mechanical Specifications**

Verdi G2/G5/G7/G8  
Laser Head



Verdi G2/G5/G7/G8  
Benchtop Power Supply



**Mechanical Specifications**

Verdi G2/G5/G7/G8  
Water-Cooled Riser

